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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,825	10/13/2003	Joseph Harry McCain	32848	5265

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EXAMINER	
MITCHELL, JAMES M	

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 08/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

N✓

Office Action Summary	Application No. 10/685,825	Applicant(s) MCCAIN, JOSEPH HARRY	
	Examiner James M. Mitchell	Art Unit 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 24 March 2006.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 29-48 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 29-48 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to applicant's amendment filed March 24, 2006.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore in claim 38, the frame open at opposing ends with first end exposing the anode and the second end exposing the cathode must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 38 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. There is no support in the original specification for a frame[1] open at opposing ends with first end exposing the anode and the second end exposing the cathode.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 45, 46, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by McCain (U.S. 5,153,710).

8. McCain (e.g. Fig. 6, 10) discloses:

(cl. 45) an integrated circuit package, comprising: a lead frame assembly including a central support member (CSM) having opposing first and second CSM surfaces (e.g.

top & bottom of 52); an integrated circuit die (ICD, 42) having opposing first and second ICD surfaces, wherein the first ICD surface is coupled (e.g. chip secure to support, 52) directly to the first CSM surface; a laminated, solid state power cell (e.g. cell comprised of multiple layers) having a cathode layer implanted with a first impurity type, an anode layer implanted with a second impurity type that is opposite the first impurity type (Col. 4, Lines 2-8), and a separator layer (24) interposing the cathode and anode layers, wherein a first one of the cathode and anode layers is coupled directly to the second CSM surface (e.g. secured of bottom of support, 52); an electrode having a substantially planar body (e.g. portion of 10 under 12) and a terminal extending from the body (e.g. portion wrapping around cell including pad, 14; Col. 5, Lines 31-40) coupled directly to a second one of anode and cathode (Fig. 6, item 14 wraps around to bottom portion of cell); a wire bond (46) having first and second ends, wherein the first end is coupled directly to a bond pad located on the second ICD surface (e.g. wire connected to chip; Fig. 2), and wherein the second end is coupled directly to the electrode terminal (Fig. 2; region 32) in a reference plane that is coincident (e.g. along same plane appearing to form a straight line) with the first CSM surface; and an insulating layer encapsulating (54) the CSM, the ICD, the power cell, the electrode, and the wire bond, collectively (Fig. 2);

(cl. 46) the power cell and the body each have substantially similar footprints (e.g. same size; Fig 6);

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[1] In claim 37, applicant asserts his frame is an insulator, which is not consistent with claim 38. Until applicant makes clear, the limitation is interpreted ass imply being the leadframe.

(cl. 48) wherein the body has a \first thickness and the power cell has a second thickness, wherein the terminal extends from the body in a perpendicular direction (e.g. wraps around cell Fig. 6), relative to the reference plane, to a distance that is not substantially less than the sum of the first and second thicknesses (e.g. goes above cell).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Claims 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCain (U.S. 5,153,710).

11. McCain discloses the elements in paragraph 8 of this office action, but does not appear to explicitly disclose its encapsulant including a polyester/paper material.

12. However, applicant has not disclosed that his selection of material produces unexpected results or otherwise critical[2]. As such, the claimed material would have been obvious since it has been held that the selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in Sinclair & Carroll Co. v. Interchemical Corp., 325 U.S. 327, 65 USPQ 297 (1945). See M.P.E.P 2144.07.

13. Claims 29-33, 36-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Queysaac et al. (U.S. 5,089,877) in combination with McCain (U.S. 5,153,710).

14. Queysaac (e.g. Fig. 7-9) discloses[3]:

(cl. 29, 39) an integrated circuit package, comprising: a lead frame assembly including a central support member (52) and a plurality of conductive leads (18), wherein the central support member has opposing first and second major surfaces (e.g. top and bottom), and wherein the plurality of conductive leads are radially disposed about the periphery of the central support member (Fig. 7); an integrated circuit die (12) coupled to the first surface of the central support member and having a plurality of bond pads (e.g. portion of chip contacted with wire, 34); a power cell (32) coupled to the second surface of the central support member , an electrode including a planar body (28A) and a terminal (28) extending from the body, wherein the body is coupled to the power cell opposite the central support member (Fig. 8); a plurality of first wire bonds (34) each coupling one of the plurality of bond pads and one of the plurality of conductive leads; and a second wire bond having a first terminus coupled to one of the plurality of bond pads and a second terminus coupled to the terminal (28) of the electrode (Fig. 9), wherein the terminal has an arcuate shape (e. bow like) to configured to position the second terminus of the second wire bond in a reference plane that is coincident with the first surface of the central support member (e.g. along same plane, similar to applicant's Fig. 5);

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[2] Polyester known as an encapsulant material as evidenced by Tuttle (U.S RE 35,765).

[3] Alternatively, prior art like Hundt et al (U.S. 5,451,715) which already shows a wire connected to a terminus that is coincident could have been used as a primary reference, since the rearrangement of known parts has been held obvious. See M.P.E.P 2144.04.

(cl. 31, 36, 37) with a frame/ insulating layer (54) encapsulating/ substantially covering the surfaces of the body and the terminal that are opposite the power cell, die, and cell, electrodes and wires collectively;

(cl. 33) and the body and terminal each comprises at leas one copper and nickel (Col.6, Lines 60-64);

(cl. 38) with a frame (20) adjacent and extending along the perimeter of each cathode, anode and cell (Fig. 7), wherein the frame is open at opposing end (e.g. top & bottom surface) the first end exposing the anode and second end (e.g. bottom exposing cathode;

(cl. 42) with body having a first thickness an cell having a second thickness and terminal extends a distance not substantially les than the sum of first and second thickness (Fig. 7, 10).

15. Queysaac does not appear to disclose that its cell is a lithium perchlorate that comprises a cathode layer, an anode layer, and a separator layer interposing the cathode and anode layers, wherein the cathode layer is doped with a first impurity type and the anode layer is doped with a second, opposite impurity type, or wherein the first and second impurity types are selected from an n-type impurity and a p-type impurity.

16. However, McCain (Fig. 6) utilizes a lithium perchlorate cell comprising a cathode layer, an anode layer, and a separator layer interposing the cathode and anode layers, wherein the cathode layer is doped with a first impurity type and the anode layer is doped with a second, opposite impurity type, and wherein the first and second impurity types are selected from an n-type impurity and a p-type impurity.

17. It would have been obvious to one of ordinary skill in the art to modify the battery of Queysaac to include the features taught in McCain in order to provide a rechargeable battery as taught by McCain (Col. 4, Lines 62-65).

18. With respect to the selection of encapsulant/insulating layer of claim 32, see paragraph 12 of this office action.

19. With respect to the size and shape of the body and terminal being for example perpendicular in claim 41 and 43, applicant has not disclosed that the claimed shape is for a particular unobvious purpose, produce an unexpected result, or are otherwise critical[4]. As such, the claimed shape being for example perpendicular would have been obvious to one of ordinary skill in the art, since it has been held that mere dimensional limitations are prima facie obvious absent a disclosure that the limitations are for a particular unobvious purpose, produce an unexpected result, or are otherwise critical. See, for example, In re Rose, 220 F.2d 459, 105 USPQ 237 (CCPA 1955); In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976); Gardner v. TEC Systems, Inc., 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984); In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

20. Claims 34, 35 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Queysaac et al. (U.S. 5,089,877) and McCain (U.S. 5,153,710) as applied to claim 29 and 39 and further in combination with Notten et al. (U.S. 6,346,343).

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[4] Moreover, applicant in his specification page 8 that the shapes may be other than shown.

21. Neither Queysaac nor McCain appear to show an electrode coupled to the power cell covered with an electrical conduction enhancing, graphite, but Notten utilizes graphite over an electrode.

22. It would have been obvious to one of ordinary skill in the art to one of ordinary skill in the art to incorporate forming graphite on the electrode of a power cell of the modified structure including Queysaac in order to slow decay in voltage as taught by Notten (Col.6, Lines 47-49) thereby enhancing electrical conduction.

Response to Arguments

23. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

24. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M. Mitchell whose telephone number is (571) 272-1931. The examiner can normally be reached on M-F 8:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead Jr. can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jmm, JD
August 4, 2006

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